CIS 443/543 User Interfaces

Exercise #3
(Team-work: Presentation, Written Report, Graded)

Due: Tuesday, Feb. 3 at 10am

Introduction and Motivation

The third step in the scenario-based development process is called *information design* (chapter 4). Its purpose is to specify the system's display of information required by the activities specified in activity design (chapter 3). This includes both objects that the user sees, hears or feels, as well as the displayed representation of actions that users will perform. Information design includes screens, web pages, menus, dialog boxes and icons. The goal is to represent and arrange information to facilitate perception and understanding. Information design is the first part of designing the actual user interface. It will be followed by interaction design (chapter 5).

An information design begins with the prior activity scenarios generated from activity analysis (Exercise #2). The output of this phase is a set of proposed graphic sketches (and/or auditory output) that support the core—and any other important—activity scenarios. During initial *exploration* of information designs, designers start by identifying the information required in the activity scenarios. Primary focus should be on the core activities. Later other activities that support advanced or infrequent functions, or a small subgroup of users can be integrated into the design. Brainstorm with your users' metaphors and prior practice. Thoroughly consider the technology options you have and how they will influence the information design such as supported types of menu. After exploration, begin to *envision* what the displays might look like. Try to generate multiple alternative design approaches. Choose the best and sketch out core screens. You may decide that you like another alternative better. In any case, refine the design layouts using the grid approach (R&C p. 118) then choose widget options to develop an overall style for the interface. Check the major components using principles of Gestalt psychology (R&C Table 4.1). Finally, after developing the sketches, validate the completeness, coherence and *rationale* for the information design. Can your users accomplish their activities with your information design with minimal learning and confusion? What are the positive and negative claims for the detailed information design for improving usability?

NOTE: The text website has several case studies illustrating information design. See
http://ucs.cs.vt.edu/default.asp?button=2

Assignment
1. Read Chapter 4 in the Rosson and Carroll text.

TURN-OVER

2. Using the on-line election problem, prepare a team presentation and written report.

Presentation (10 minutes/group)
1. Describe the information metaphors and information design technology options you considered for your overall design for one group of stakeholders' activities. (1 minutes)
2. Describe two alternative overall information design approaches. What are the positive and negative claims for improving usability of each approach? See Table 4.4 of Rosson & Carroll. Explain why you chose one of them. (2 minutes)
3. Show the detailed sketches for sequential screen designs that support one activity scenario. Be sure and include the grid layout and widgets. Annotate as necessary. (3 minutes)
4. Justify your design for the sketches in 3. above using the principles of Gestalt psychology. (2 minutes)
5. Describe the activity scenario for 3. above with the information design added. (2 minutes)

Written Report (10-13 pages)
1. Provide your activity scenarios for your core groups of stakeholders. Are these the essential activities that you want to include in your design? Do they represent "average" users as well as special cases of users or special failure situations? (2-3 pages)
2. Describe the information metaphors and information design technology options you considered for your overall information design of activity scenarios. (1 page)
3. Describe the alternative information design approaches you considered while exploring the design space. What are the positive and negative claims for improving usability of each approach? See Table 4.4 of Rosson & Carroll. Explain why you chose one of them. (1 page)
4. For your activity scenarios, show the detailed sketches for sequential screen designs that support each activity. Be sure and include the grid layout and widgets. Annotate as necessary. (3-4 pages)
5. Justify your design for the grid layout and widgets using the principles of Gestalt psychology. (1 page)
6. Rewrite your activity scenarios with the information design added. (2-3 pages)
7. Each member fills out a Group Membership Evaluation (GME)

Grading
You will be graded on (1) completing all the parts of the assignment, (2) correctly applying the methods and techniques, (3) having the content make sense and be representative of the real world, and (4) the quality of your presentation and writing—communicating ideas clearly, concisely, completely, and correctly (spelling and grammar).

See the Grading Sheet for Exercise #3.